hadisdhTable version 1 – date: 10.5.2016

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HadISDH.land Data Format Description

Contents:

1) Tables of netCDF file variable names, descriptions and dimensions

Table 1. Generic Dimensions for HadISDH.land

Dimension Name	Dimensions
time	??? months
month	12 months
characters	10 characters
latitude	36 5° gridboxes
longitude	72 5° gridboxes
bound_pairs	2 elements

Table 2. Generic Variables for HadISDH.land

Variable Name	standard_name	long_name	units	Dimensions	cell_methods	comments
time	time	time	days since 1973-1-1 00:00:00	time		
bounds_time	time	time period boundaries		time, bound_pairs		
month		month of year		month, characters		
climbounds		climatology period boundaries		month, bound_pairs, characters		
latitude	latitude	gridbox centre latitude	degrees_north	latitude		
bounds_lat	latitude	latitude gridbox boundaries		latitude, bound_pairs		
longitude	longitude	gridbox centre longitude	degrees_east	longitude		
bounds_lon g	longitude	longitude gridbox boundaries		longitude, bound_pairs		
meanstnco unt		mean number of stations within gridbox	1	latitude, longitude	time: mean (interval: 1 month) area: sum where land (stations within gridbox)	
stncount		actual number of stations within gridbox	1		time: sum (interval: 1 month) area: sum where land (stations within gridbox)	

stdunc		uncorrelated combined 1 sigma uncertainty for gridbox	g/kg, hPa, deg C, %rh	time, latitude, longitude		gridbox mean monthly station uncertainty and gridbox sampling uncertainty combined in quadrature assumed uncorrelated
sampunc		uncorrelated 1 sigma sampling uncertainty for gridbox	g/kg, hPa, deg C, %rh	time, latitude, longitude	area: mean where land (stations within gridbox)	gridbox sampling uncertainty (Jones et al 1997) based on spatio-temporal station presence and intersite correlation assumed uncorrelated
stnunc		uncorrelated 1 sigma station uncertainty for gridbox	g/kg, hPa, deg C, %rh	time, latitude, longitude	time: mean (interval: 1 month) area: mean where land (stations within gridbox combined in quadtrature)	gridbox mean monthly measurement, adjustment and climatology uncertainty combined in quadrature for each station and then in quadrature over the gridbox assumed to be uncorrelated
measunc		uncorrelated 1 sigma measurement uncertainty for gridbox	g/kg, hPa, deg C, %rh	time, latitude, longitude	time: mean (interval: 1 month) area: mean where land (stations within gridbox combined in quadtrature)	gridbox mean monthly measurement uncertainty for each station combined in quadrature over the gridbox assumed to be uncorrelated
climunc		uncorrelated 1 sigma climatology uncertainty for gridbox	g/kg, hPa, deg C, %rh	time, latitude, longitude	area: mean where land (stations within gridbox combined in quadtrature)	gridbox mean monthly climatology uncertainty for each station combined in quadrature over the gridbox assumed to be uncorrelated
adjunc		uncorrelated 1 sigma adjustment uncertainty for gridbox	g/kg, hPa, deg C, %rh	time, latitude, longitude	area: mean where land (stations within gridbox combined in quadtrature)	gridbox mean monthly adjustment (applied and missed) uncertainty for each station combined in quadrature over the gridbox assumed to be uncorrelated
rbar		intersite correlation (rbar)	1	latitude, longitude		intersite correlation for each gridbox following Jones et al

						1997 (rbar)
sbar2		mean gridbox variance (sbar2)	g/kg, hPa, deg C, %rh	latitude, longitude		mean variance over all stations in gridbox following Jones et al 1997 (sbar2)

Table 3. Generic Global Attributes for HadISDH.land

Global Attribute Name	Description
File_created	YYYY-MM-DD HH:MM:SS
Title	title of product
Institution	list of contributing institutions
History	links to further information (additional references, web pages, blogs, twitter handles)
Licence	licensing statement with link to license and instructions on how to cite the data product
Project	overarching project with web page link
Processing_level	brief summary of processes applied to data from source to product
Source	source input data
Comment	any other notes of interest
References	Key journal article to be cited and read for more information
Creator_name	name of main contact author
Creator_email	email for main contact
Version	vX.Y.Z.YYYYp/f: X = major update, Y = minor update, Z = small bug fix or historical data change, YYYY = last year of record, p/f = provisional (p) or final (f)
doi	issued doi for this version
Conventions	CF version that the netCDF file has been checked against

Table 4. Variables for HadISDH.landq/RH/e/Td/Tw/T/DPD. Units are g/kg, %rh, hPa, deg C, deg C, deg C and deg C respectively.

Variable Name	standard_name	long_name	Dimensions	cell_methods	comments
hussa/ hursa/ vpsa/ tdsa/ twsa/ tasa/ dpdsa	-/ -/ -/ -/ -/ air_temperature_anomaly/ -	near surface (~2m) specific humidity/ relative humidity/ vapour pressure/ dew point temperature/ wet bulb temperature/ air temperature/ dew point depression anomaly	time, latitude, longitude	time: mean (interval: 1 month comment: anomaly from climatology) area: mean where land (stations within gridbox)	gridbox mean monthly mean climate anomaly from stations
huss/ hurs/ vps/ tds/	specific_humidity/ relative_h	near surface (~2m) specific humidity/	time, latitude, longitude	time: mean (interval: 1 month) area:	gridbox mean monthly mean from stations

tws/ tas/ dpds/	umidity/ -/ dew point temperature/ wet bulb temperature/ air temperature/ dew point depression/	relative humidity/ vapour pressure/ dew point temperature/ wet bulb temperature/ air temperature/ dew point depression		mean where land (stations within gridbox)	
std		near surface (~2m) specific humidity/ relative humidity/ vapour pressure/ dew point temperature/ wet bulb temperature/ air temperature/ dew point depression standard deviation	time, latitude, longitude	time: mean (interval: 1 month) area: variance where land (stations within gridbox)	gridbox standard deviation of monthly mean climate anomaly from stations
clm		near surface (~2m) specific humidity/ relative humidity/ vapour pressure/ dew point temperature/ wet bulb temperature/ air temperature/ dew point depression climatology	time, latitude, longitude	time: mean (interval: 1 month comment: over 30 year climatology period) area: mean where land (stations within gridbox)	gridbox mean of monthly mean from stations

2) Description of ASCII file format

There is an ASCII format file for each variable containing the gridded values for actual (_actual), anomalies (_anomaly7605) and 2 sigma combined (station [measurement, climatology and homogeneity adjustment] and gridbox spatio-temporal sampling) uncertainties (_uncertainty2sig):

e.g.,
huss_HadISDH_HadOBS_19730101-20141231_v2-0-1-2014p_actual.dat
huss_HadISDH_HadOBS_19730101-20141231_v2-0-1-2014p_anomaly7605.dat
huss_HadISDH_HadOBS_19730101-20141231_v2-0-1-2014p_uncertainty2sig.dat

The ASCII version of the gridded data lists each month in turn (from January 1973 to the most recent December) identified by a single row with a four character integer for the year (YYYY), a space and a three character string for the month name (MMM).

Each month has 72 columns of longitude (-177.5W to 177.5E grid cell centres) and 36 rows of latitude (-87.5S to 87.5N grid cell centres). The longitudes and latitudes are listed at file end.

Missing data are identified by -9999.99.

Units are in g/kg, %rh, hPa or degrees C depending on the variable. See Tables 1 to 4 for variable names and descriptions and other information about the product.